WHAT IS CLAIMED IS:

1. A fuel composition for internal combustion engines, said fuel composition comprising:

(a) at least 5% of fuel hydrocarbons and

(b) at least 10 ppm of nonlinear primary aliphatic alcohols having at least 11 carbon atoms,

preferably wherein components (a) and (b) are cosynthesized.

2. A composition according to Claim 1 wherein:

• said fuel hydrocarbons comprise at least two types of fuel hydrocarbons, preferably wherein said at least two types of fuel hydrocarbons are differentiated in that at a first type of fuel hydrocarbon is present which is selected from Fischer-Tropsch Oxo hydrocarbons and in that a second type of fuel hydrocarbon is present which is other than said first type of fuel hydrocarbon, and

• at least 0.6 weight fraction of said nonlinear primary aliphatic alcohols are nonlinear primary aliphatic Oxo alcohols preferably comprising at least one C_1-C_3 alkyl substituent situated on a third or higher carbon atom counting from an Oxo alcohol hydroxy group and/or preferably wherein said nonlinear primary aliphatic Oxo alcohols are selected from lubricating, pour-point depressing nonlinear primary aliphatic Oxo alcohols; and not more than 0.02 weight fraction of said nonlinear primary aliphatic Oxo alcohols comprises a quaternary substituted carbon atom, more preferably wherein said composition is in the form of a concentrated fuel additive, comprising from 0.2% to 19% of said nonlinear primary aliphatic Oxo alcohol and from 81% to 99.8% of said fuel hydrocarbons; and wherein said nonlinear primary aliphatic Oxo alcohols have an independently variable degree of branching, DOB_a , which exceeds the degree of branching of said fuel hydrocarbons, DOB_F, according to the relation: $DOB_a = DOB_F + 0.3$; of more preferably wherein said composition is in the form of a concentrated fuel additive comprising: from 5% to 90% of said fuel hydrocarbons and from 10% to 95% of said nonlinear primary aliphatic Oxo alcohol; wherein said fuel hydrocarbons are derived from F.T.wax, petroleum wax and mixtures thereof; and said nonlinear primary aliphatic Oxo alcohol is

in the form of a two-carbon alcohol cut selected from a C_{12}-C_{13} cut, a C_{14}-C_{15} cut and a C_{16}-C_{17} cut; or more preferably wherein said composition is in the form of a concentrated fuel additive, comprising: from 5% to 90% of said fuel hydrocarbons and from 10% to 95% of said nonlinear primary aliphatic Oxo alcohol; wherein said fuel hydrocarbons are derived from F.T.wax, petroleum wax and mixtures thereof, and said nonlinear primary aliphatic Oxo alcohol is in the form of a four-carbon alcohol cut selected from a C_{14}-C_{17} cut.

3. A composition according to Claim 1 comprising: from 5% to 99.9990% of said fuel hydrocarbons and from 10 ppm to 95% of said nonlinear primary aliphatic Oxo alcohols, preferably wherein said nonlinear primary aliphatic Oxo alcohols are selected from lubricating, pour-point depressing nonlinear primary aliphatic Oxo alcohols; wherein said fuel hydrocarbons comprise Fischer-Tropsch Oxo hydrocarbons; and said nonlinear primary aliphatic Oxo alcohols have an average of from 11 to 21 carbon atoms; and wherein said composition further comprises a member selected from the group consisting of:

(c) linear long-chain monoalcohols;

(d) nonlinear diols;

(e) linear diols; and

(f) mixtures of two or more of (c)-(e),

preferably wherein components (b) and (c) are present at a (b):(c) ratio of at least 2:1 by weight, more preferably wherein said fuel hydrocarbons and members of said nonlinear primary aliphatic Oxo alcohols synthesized nonintegrally with components of said fuel hydrocarbons, thereby achieving higher ratios, (b):(c), of said nonlinear primary aliphatic Oxo alcohols to linear Oxo alcohols than can be attained by known Fischer-Tropsch wax processes for making oxygenated fuels are blended together to form a product.

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4. A composition according to Claim 2 wherein said nonlinear primary aliphatic Oxo alcohols are present in component (b) in a weight fraction sufficient to depress the additive pour point, APP_l, of component (b) to at least 10 deg. C below the

additive pour point APP_R, of a reference alcohol composition consisting essentially of the corresponding linear primary aliphatic alcohols.

5. A composition according to Claim 3 wherein said nonlinear primary aliphatic Oxo alcohols are present in component (b) in a weight fraction sufficient to depress the additive pour point, APP_I, of component (b) to at least 10 deg. C below the additive pour point APP_R, of a reference alcohol composition consisting essentially of the corresponding linear primary aliphatic alcohols.

6. A composition according to Claim 2 wherein the composition comprises from 20% to 95% of said nonlinear primary aliphatic Oxo alcohols; and wherein said fuel hydrocarbons, (a), comprise:

(i) from 5% to 80% of a first type of fuel hydrocarbons selected from Fischer-Tropsch Oxo hydrocarbons;

and wherein at least 0.8 weight fraction of said nonlinear primary aliphatic Oxo alcohols comprises at least one C_1-C_3 alkyl substituent situated on a third or higher carbon atom counting from an Oxo alcohol hydroxy group; and not more than 0.01 weight fraction of said nonlinear primary aliphatic Oxo alcohols comprises a quaternary substituted carbon atom, and preferably wherein said composition is blended with any fuel hydrocarbon, fuel blend stock or fule not comprising said first type of fuel hydrocarbon to form a fuel blend stock or finished fuel composition.

7. A composition according to Claim 3 wherein the composition comprises from 20% to 95% of said nonlinear primary aliphatic Oxo alcohols; and wherein said fuel hydrocarbons, (a), comprise:

(ii) from 5% to 80% of a first type of fuel hydrocarbons selected from Fischer-Tropsch Oxo hydrocarbons;

and wherein at least 0.8 weight fraction of said nonlinear primary aliphatic Oxo alcohols comprises at least one C_1-C_3 alkyl substituent situated on a third or higher carbon atom counting from an Oxo alcohol hydroxy group; and not more than 0.01 weight fraction of said nonlinear primary aliphatic Oxo alcohols comprises a quaternary

substituted carbon atom, and preferably wherein said composition is blended with any fuel hydrocarbon, fuel blend stock or fule not comprising said first type of fuel hydrocarbon to form a fuel blend stock or finished fuel composition.

8. A composition according to Claim 2 wherein the composition comprises from 0.1% to 19% of said nonlinear primary aliphatic Oxo alcohol; and wherein said fuel hydrocarbons, (a), comprise:

(i) from 0.05% to 18% of a first type of fuel hydrocarbons selected from Fischer-Tropsch Oxo hydrocarbons and

(ii) from 80% to 99% of a second type of fuel hydrocarbons selected from Fischer-Tropsch non-Oxo hydrocarbons;

and wherein at least 0.8 weight fraction of said nonlinear primary aliphatic Oxo alcohols comprises at least one C_1-C_3 alkyl substituent situated on a third or higher carbon atom counting from an Oxo alcohol hydroxy group; and not more than 0.001 weight fraction of said nonlinear primary aliphatic Oxo alcohols comprises a quaternary substituted carbon atom, preferably wherein said second type of fuel hydrocarbons and said first type of fuel hydrocarbons are present in a ratio of at least 10: 1 by weight, preferably wherein said nonlinear primary aliphatic Oxo alcohols and said second type of fuel hydrocarbons have independently varying numbers of carbon atoms and degrees of branching or wherein said second type of fuel hydrocarbons has a broader range of number of carbon atoms than said nonlinear primary aliphatic Oxo alcohols or wherein said second type of fuel hydrocarbon has a lesser degree of branching than said nonlinear primary aliphatic Oxo alcohols.

9. A composition according to Claim 3 wherein the composition comprises from 0.1% to 19% of said nonlinear primary aliphatic Oxo alcohol; and wherein said fuel hydrocarbons, (a), comprise:

(iii) from 0.05% to 18% of a first type of fuel hydrocarbons selected from Fischer-Tropsch Oxo hydrocarbons and

(iv) from 80% to 99% of a second type of fuel hydrocarbons selected from Fischer-Tropsch non-Oxo hydrocarbons;

and wherein at least 0.8 weight fraction of said nonlinear primary aliphatic Oxo alcohols comprises at least one C_1-C_3 alkyl substituent situated on a third or higher carbon atom counting from an Oxo alcohol hydroxy group; and not more than 0.001 weight fraction of said nonlinear primary aliphatic Oxo alcohols comprises a quaternary substituted carbon atom, preferably wherein said second type of fuel hydrocarbons and said first type of fuel hydrocarbons are present in a ratio of at least 10: 1 by weight, preferably wherein said nonlinear primary aliphatic Oxo alcohols and said second type of fuel hydrocarbons have independently varying numbers of carbon atoms and degrees of branching or wherein said second type of fuel hydrocarbons has a broader range of number of carbon atoms than said nonlinear primary aliphatic Oxo alcohols or wherein said second type of fuel hydrocarbon has a lesser degree of branching than said nonlinear primary aliphatic Oxo alcohols.

10. A composition according to Claim 2 wherein the composition comprises from 0.01% to 10% of said nonlinear primary aliphatic Oxo alcohol; and wherein said fuel hydrocarbons, (a), comprise:

(i) from 0.005% to 12% of a first type of fuel hydrocarbons selected from Fischer-Tropsch Oxo hydrocarbons;

(ii) from 0 % to 99.8% of a second type of fuel hydrocarbons selected from Fischer-Tropsch non-Oxo hydrocarbons; and

(iii) from 0.1% to 99.995% of at least one other type of fuel hydrocarbons selected from fuel hydrocarbons other than (i) and (ii);

and wherein at least 0.6 weight fraction of said nonlinear primary aliphatic Oxo alcohols, (b), comprises at least one C_1-C_3 alkyl substituent situated on a third or higher carbon atom counting from an Oxo alcohol hydroxy group, preferably wherein the said at least one other type of fuel hydrocarbons comprises at least 0.1 weight fraction saturated cyclic hydrocarbons; and all other types of fuel hydrocarbons present comprise less than 0.05 weight fraction of saturated cyclic hydrocarbons, preferably wherein said other type, (iii), of fuel hydrocarbons and said first type of fuel hydrocarbons are present in a ratio of at least 10:1 by weight.

11. A composition according to Claim 2 wherein said combustion engine is a diesel engine; said fuel hydrocarbons comprise from 10 to 20 carbon atoms; and said composition has

- a flow point of - 25 deg. C or below;
- a sulfur content of < 50 ppm; and
- an aromatics content of less than 10%; and

preferably said composition comprises:

(a) at least 90% of said fuel hydrocarbons; and

(b) from 100 ppm to 5 % of said nonlinear primary aliphatic Oxo alcohols having from 11 to 21 carbon atoms.

12. A composition according to Claim 2 wherein said combustion engine is a jet engine; said fuel hydrocarbons comprise from 9 to 14 carbon atoms; and wherein said composition has

- a flow point of - 47 deg. C or below; and
- a smoke point of at least 18 mm wick; and

preferably said composition comprises:

(a) at least 90% of said fuel hydrocarbons; and

(b) from 100 ppm to 5 % of said nonlinear primary aliphatic Oxo alcohols having from 11 to 17 carbon atoms.

13. A composition according to Claim 2 wherein said combustion engine is a new compact diesel or other nontraditional engine; said fuel hydrocarbons comprise from 5 to 14 carbon atoms; and said composition has

- a flow point of - 25 deg. C or below,
- a sulfur content of < 50 ppm; and
- an aromatics content of less than 10%; and

preferably said composition comprises:

(a) at least 90% of said fuel hydrocarbons; and

(b) from 100 ppm to 10% of said nonlinear primary aliphatic Oxo alcohols.

14. A composition according to Claim 1 wherein said fuel composition comprises:

(a) at least 5 % of fuel hydrocarbons comprising:

(i) from 1 ppm to 10% of a first type of fuel hydrocarbons having from 10 to 20 carbon atoms selected from Fischer-Tropsch Oxo hydrocarbons; and at least one member having at least 5 carbon atoms selected from:

(ii) from 0 % to 99% of a second type of fuel hydrocarbons selected from Fischer-Tropsch non-Oxo hydrocarbons and

(iii) from 0 % to 99% of at least one other type of fuel hydrocarbons, other than (a) (i) and (a) (ii), provided that the sum of (a) (ii) and (a) (iii) is at least 80%;

(b) at least 10 ppm of nonlinear primary aliphatic Oxo alcohols having at least 11 carbon atoms wherein at least 0.6 weight fraction of said nonlinear primary aliphatic Oxo alcohols comprises at least one C_1-C_3 alkyl substituent situated on a third or higher carbon atom counting from an Oxo alcohol hydroxy group; and not more than 0.01 weight fraction of said nonlinear primary aliphatic Oxo alcohols comprises a quaternary substituted carbon atom; and

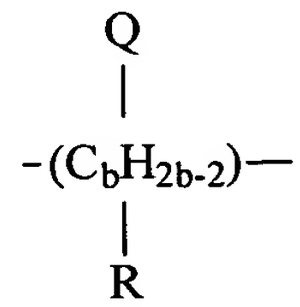
(c) at least 0.001 ppm of linear primary Oxo alcohols having at least 11 carbon atoms; and wherein said fuel has:

- a ratio by weight {(a)(ii) + (a)(iii)} : (a)(i) of at least 10 : 1;
- a ratio by weight (b) : (c) of at least 1:10, and
- a low level of sulfur, of no more than 50 ppm,

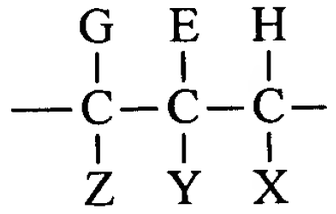
preferably wherein said composition has

- an independence of the average number of carbon atoms of component (b) as compared with {(a)(i) + (a)(ii) + (a) (iii)}; and wherein:
- said fuel is produced by a process having at least one step of blending a preformed concentrated fuel additive comprising at least said components (a) (i), (b) and (c) with a portion of said fuel hydrocarbons, said portion being selected from (a)(ii), (a) (iii) and (a)(ii) + (a) (iii), more preferably wherein said component, (a)(iii), comprises at least 0.1 weight fraction saturated cyclic hydrocarbons; whereas said components, (a)(i) and (a)(ii), each comprise less than 0.05 weight fraction of saturated cyclic hydrocarbons.

15. A composition according to Claim 2 wherein said nonlinear primary aliphatic Oxo alcohols have the formula:



wherein C_bH_{2b-2} is a linear saturated hydrocarbyl and K,L, Q and R are substituents; K is CH_3, L is the moiety:



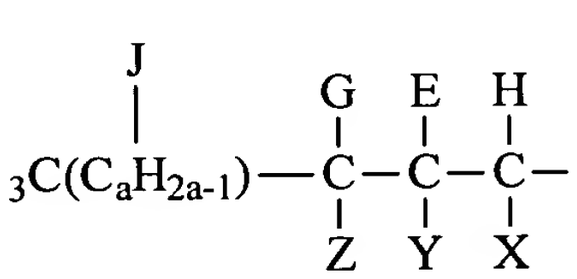
wherein one of X and Y and Z is CH_2OH; and

any of X and Y and Z which is not CH_2OH is H;

b is an integer selected such that the total carbon content of said nonlinear primary aliphatic Oxo alcohol is from 11 to 21;

E, G and Q are selected from H, methyl, ethyl, propyl and butyl provided that at least one of E, G and Q is not H;

and R is selected from H, methyl, ethyl, propyl and butyl, preferably wherein when Q and R are both different from H, Q and R are attached to different carbon atoms of said linear saturated hydrocarbyl, more preferably said nonlinear primary aliphatic Oxo alcohols have the formula:



wherein one of X and Y and Z is CH_2OH;

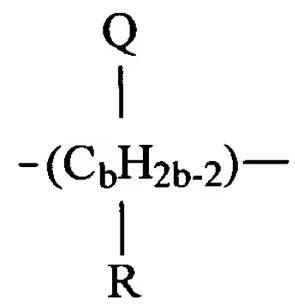
any of X and Y and Z which is not CH_2OH is H;

E, G and J are selected from H and methyl provided that at least one of E, G and J is methyl;

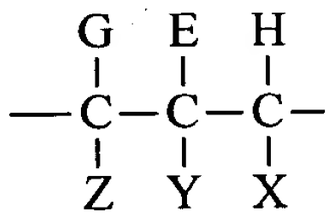
the moiety C_aH_{2a-1} is a linear saturated hydrocarbyl; and

a is an integer selected such that the total carbon content of said nonlinear primary aliphatic Oxo alcohol is from 11 to 21.

16. A composition according to Claim 3 wherein said nonlinear primary aliphatic Oxo alcohols have the formula:



wherein C_bH_{2b-2} is a linear saturated hydrocarbyl and K,L, Q and R are substituents; K is CH_3, L is the moiety:



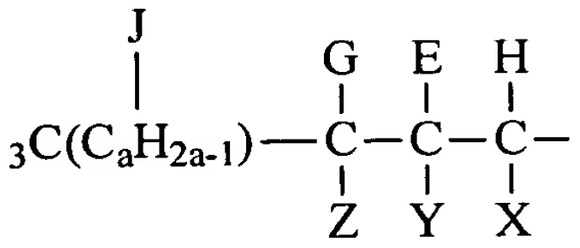
wherein one of X and Y and Z is CH_2OH; and

any of X and Y and Z which is not CH_2OH is H;

b is an integer selected such that the total carbon content of said nonlinear primary aliphatic Oxo alcohol is from 11 to 21;

E, G and Q are selected from H, methyl, ethyl, propyl and butyl provided that at least one of E, G and Q is not H;

and R is selected from H, methyl, ethyl, propyl and butyl, preferably wherein when Q and R are both different from H, Q and R are attached to different carbon atoms of said linear saturated hydrocarbyl, more preferably said nonlinear primary aliphatic Oxo alcohols have the formula:



wherein one of X and Y and Z is CH_2OH;

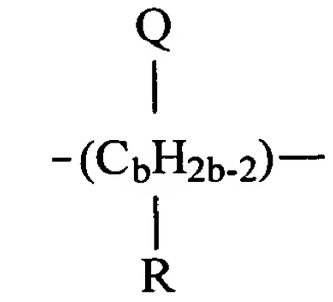
any of X and Y and Z which is not CH_2OH is H;

E, G and J are selected from H and methyl provided that at least one of E, G and J is methyl;

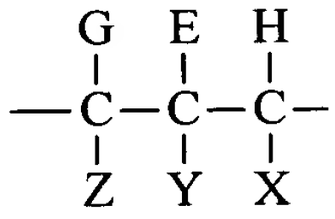
the moiety C_aH_{2a-1} is a linear saturated hydrocarbyl; and

a is an integer selected such that the total carbon content of said nonlinear primary aliphatic Oxo alcohol is from 11 to 21.

17. A composition according to Claim 3 wherein said nonlinear diols have the formula:



wherein C_bH_{2b-2} is a linear saturated hydrocarbyl and K,L, Q and R are substituents; K and L are independently selected from:



wherein one of X and Y and Z is CH_2OH; and

any of X and Y and Z which is not CH_2OH is H;

b is an integer selected such that the total carbon content of said nonlinear diol is from 12 to 22;

E, G and Q are selected from H, methyl, ethyl, propyl and butyl provided that at least one of E, G and Q is not H;

and R is selected from H and methyl, preferably said nonlinear diols are nonlinear Oxo diols, and wherein when Q and R are both different from H, Q and R are attached to different carbon atoms of said linear saturated hydrocarbyl, more preferably said nonlinear primary aliphatic Oxo alcohols, (b), and said nonlinear diols, (d), are present at a ratio (b) : (d), of from 1000:1 to 2:1 by weight, preferably said nonlinear diols are present at a level of from 0.001 ppm to 30 % by weight.

18. A fuel composition for use as jet or diesel fuel, said composition comprising the product of blending:

(a) from 90% to 99.9% of fuel hydrocarbons having from 9 to 20 carbon atoms; and

(b) from 100 ppm to 10% of nonlinear primary aliphatic Oxo alcohols, wherein said alcohols are the product of a process comprising:

(I) a first stage comprising: providing a member selected from

(A) F.T. wax;

(B) conventional petroleum wax;

(C) a fuel hydrocarbon distillation cut in the Jet / diesel range, said distillation cut comprising at least 0.8 weight fraction of linear paraffins, mono-, di- or tri- C_1-C_3 branched acyclic paraffins, or mixtures thereof;

(D) mixtures thereof;

(II) a pre-Oxo stage comprising sequentially or concurrently delinearizing and preparing the product of the first stage for Oxo reaction, said stage comprising two or more steps in any order selected from steps capable of effecting (i) chain-breaking, (ii) branch-forming and (iii) olefin-forming; and

(III) an Oxo/post-Oxo stage comprising converting the product of the pre-Oxo stage to said alcohol, said stage comprising at least one Oxo step and further optionally comprising an Oxo aldehyde to alcohol conversion step and / or a step of hydrogenation of residual olefins to paraffins.

19. A fuel composition for use as jet or diesel fuel, said composition comprising the product of blending:

(a) from 90% to 99.9% of fuel hydrocarbons having from 9 to 20 carbon atoms; and

(b) nonlinear primary aliphatic Oxo alcohols, wherein said alcohols are the product of a process comprising:

(I) a first stage comprising: providing a member selected from propylene / butylene monoolefin oligomers having from 0.5 to 2.0 methyl groups per chain, said oligomers being prepared using molecular sieves selected from ZSM-23 and functional equivalents and

(II) an Oxo/post-Oxo stage comprising at least one Oxo step and further optionally comprising an aldehyde to alcohol conversion step and / or a step of hydrogenation of residual olefins to paraffins.

20. A method of use of a composition according to Claim 1 comprising a step of combusting said composition as fuel in a vehicle having a power system consisting of a 10,000 psi or greater direct injection diesel engine or a hybrid power system comprising said engine and an electric motor, preferably additionally comprising a step of storing said composition in a tank and a step of passing said composition from said tank to said engine, wherein said method said composition is pumpable at temperatures down to - 25 deg. C.

21. A method of use of a composition according to Claim 18 comprising a step of combusting said composition as fuel in a vehicle having a power system consisting of a 10,000 psi or greater direct injection diesel engine or a hybrid power system comprising said engine and an electric motor, preferably additionally comprising a step of storing said composition in a tank and a step of passing said composition from said tank to said engine, wherein said method said composition is pumpable at temperatures down to - 25 deg. C.

22. A method of use of a composition according to Claim 19 comprising a step of combusting said composition as fuel in a vehicle having a power system consisting of a 10,000 psi or greater direct injection diesel engine or a hybrid power system comprising said engine and an electric motor, preferably additionally comprising a step of storing said composition in a tank and a step of passing said composition from said tank to said engine, wherein said method said composition is pumpable at temperatures down to - 25 deg. C.

23. A method of use of a composition according to Claim 1 comprising a step of passing said composition from a fuel tank at temperatures down to - 47 deg. C to a

jet engine followed by a step of combusting said composition as fuel in said jet engine at elevated altitudes and / or at low ambient temperatures.

24. A method of use of a composition according to Claim 18 comprising a step of passing said composition from a fuel tank at temperatures down to - 47 deg. C to a jet engine followed by a step of combusting said composition as fuel in said jet engine at elevated altitudes and / or at low ambient temperatures.

25. A method of use of a composition according to Claim 19 comprising a step of passing said composition from a fuel tank at temperatures down to - 47 deg. C to a jet engine followed by a step of combusting said composition as fuel in said jet engine at elevated altitudes and / or at low ambient temperatures.

26. A method of biodegrading a fuel comprising
(i) selecting a composition according to Claim 1 otherwise useful as a fuel; and
(ii) disposing of said composition, optionally in presence of soils and / or microorganisms.

27. A method of biodegrading a fuel comprising
(iii) selecting a composition according to Claim 18 otherwise useful as a fuel; and
(iv) disposing of said composition, optionally in presence of soils and / or microorganisms.

28. A method of biodegrading a fuel comprising
(v) selecting a composition according to Claim 19 otherwise useful as a fuel; and
(vi) disposing of said composition, optionally in presence of soils and / or microorganisms.

29. Use of a composition according to Claim 1 as fuel for an engine selected from two-cycle and four-cycle engines having a compression ratio of from 5:1 to 40:1 and jet or turbine engines utilizing flame or surface combustion.

30. Use of a composition according to Claim 18 as fuel for an engine selected from two-cycle and four-cycle engines having a compression ratio of from 5:1 to 40:1 and jet or turbine engines utilizing flame or surface combustion.

31. Use of a composition according to Claim 19 as fuel for an engine selected from two-cycle and four-cycle engines having a compression ratio of from 5:1 to 40:1 and jet or turbine engines utilizing flame or surface combustion.

32. A composition according to Claim 1 further comprising a non-zero amount of at least one of the following components:

- from 0% to no more than 3 % olefins;
- from 0% to no more than 15 % monocyclic aromatics;
- from 0% to no more than 2% C_1-C_9 carboxylates; and
- from 0% to no more than 0.5 % aldehydes.

33. A composition according to Claim 18 further comprising a non-zero amount of at least one of the following components:

- from 0% to no more than 3 % olefins;
- from 0% to no more than 15 % monocyclic aromatics;
- from 0% to no more than 2% C_1-C_9 carboxylates; and
- from 0% to no more than 0.5 % aldehydes.

34. A composition according to Claim 19 further comprising a non-zero amount of at least one of the following components:

- from 0% to no more than 3 % olefins;
- from 0% to no more than 15 % monocyclic aromatics;
- from 0% to no more than 2% C_1-C_9 carboxylates; and
- from 0% to no more than 0.5 % aldehydes.

35. A composition according to Claim 10 wherein:

- said first type of fuel hydrocarbons, (i), comprises from 0% to no more than 10% cyclic nonaromatics;
- said second type of fuel hydrocarbons, (ii), comprises from 0% no more than 10% cyclic nonaromatics; and
- said other type of fuel hydrocarbons, (iii), comprises at least 5% cyclic nonaromatics.

36. A composition according to Claim 14 wherein:

- said first type of fuel hydrocarbons, (i), comprises from 0% to no more than 10% cyclic nonaromatics;
- said second type of fuel hydrocarbons, (ii), comprises from 0% no more than 10% cyclic nonaromatics; and
- said other type of fuel hydrocarbons, (iii), comprises at least 5% cyclic nonaromatics.

37. A composition according to Claim 2 wherein said nonlinear primary aliphatic Oxo alcohols are substantially free from methyl butanols, ethylhexanols, propylheptanols, natural alcohol mixtures, aminoalcohols, aromatic alcohols, glycols having linear hydrocarbon chains, alcohols comprising the aldol condensation product of aldehydes; alcohols comprising the Oxo product of linear internal olefins, and alcohols comprising quaternized carbon and consisting of the Oxo product of acid-catalyzed propylene / butylene oligomerization.

38. A composition according to Claim 3 wherein said nonlinear primary aliphatic Oxo alcohols are substantially free from methyl butanols, ethylhexanols, propylheptanols, natural alcohol mixtures, aminoalcohols, aromatic alcohols, glycols having linear hydrocarbon chains, alcohols comprising the aldol condensation product of aldehydes; alcohols comprising the Oxo product of linear internal olefins, and alcohols comprising quaternized carbon and consisting of the Oxo product of acid-catalyzed propylene / butylene oligomerization.

39. A composition according to Claim 10 wherein said nonlinear primary aliphatic Oxo alcohols are substantially free from methyl butanols, ethylhexanols, propylheptanols, natural alcohol mixtures, aminoalcohols, aromatic alcohols, glycols having linear hydrocarbon chains, alcohols comprising the aldol condensation product of aldehydes; alcohols comprising the Oxo product of linear internal olefins, and alcohols comprising quaternized carbon and consisting of the Oxo product of acid-catalyzed propylene / butylene oligomerization.

40. A composition according to Claim 14 wherein said nonlinear primary aliphatic Oxo alcohols are substantially free from methyl butanols, ethylhexanols, propylheptanols, natural alcohol mixtures, aminoalcohols, aromatic alcohols, glycols having linear hydrocarbon chains, alcohols comprising the aldol condensation product of aldehydes; alcohols comprising the Oxo product of linear internal olefins, and alcohols comprising quaternized carbon and consisting of the Oxo product of acid-catalyzed propylene / butylene oligomerization.

41. A composition according to Claim 1 having low levels of sulfur and / or nitrogen and / or polycyclic aromatics as analyzed on a finished fuel basis.

42. A composition according to Claim 41 wherein said level of sulfur is no more than 50 ppm on a finished fuel basis, and said level of nitrogen is no more than 50 ppm on a finished fuel basis.

43. A composition according to Claim 41 wherein said total level of polycyclic aromatics is from 0 ppm to no more than 50 ppm on a finished fuel basis.

44. A composition according to Claim 41 wherein said composition is substantially free from olefins and carboxylates.

45. A composition according to Claim 1 wherein said composition is in the form of a concentrated fuel additive and wherein said fuel hydrocarbons are substantially free from hydrocarbons other than Fischer-Tropsch - Oxo hydrocarbons.

46. A composition according to Claim 18 wherein said composition is in the form of a concentrated fuel additive and wherein said fuel hydrocarbons are substantially free from hydrocarbons other than Fischer-Tropsch - Oxo hydrocarbons.

47. A composition according to Claim 19 wherein said composition is in the form of a concentrated fuel additive and wherein said fuel hydrocarbons are substantially free from hydrocarbons other than Fischer-Tropsch - Oxo hydrocarbons.

48. A composition according to Claim 1 wherein said composition is substantially free from native F.T. alcohols.

49. A composition according to Claim 18 wherein said composition is substantially free from native F.T. alcohols.

50. A composition according to Claim 19 wherein said composition is substantially free from native F.T. alcohols.

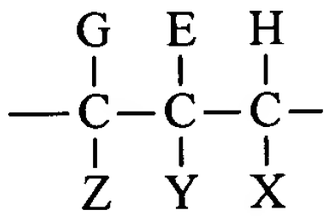
51. A composition according to Claim 2 wherein said nonlinear primary aliphatic Oxo alcohols are substantially the only lubricity-improving component.

52. A composition according to Claim 3 wherein said nonlinear primary aliphatic Oxo alcohols are substantially the only lubricity-improving component.

53. A composition according to Claim 18 wherein said nonlinear primary aliphatic Oxo alcohols are substantially the only lubricity-improving component.

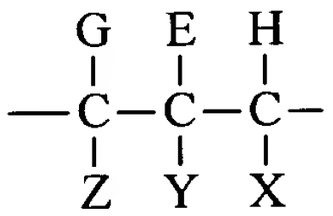
54. A composition according to Claim 19 wherein said nonlinear primary aliphatic Oxo alcohols are substantially the only lubricity-improving component.

55. A composition wherein C_bH_{2b-2} is a linear saturated hydrocarbyl and K,L, Q and R are substituents; K and L are independently selected from:



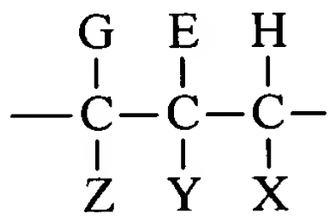
wherein one of X and Y and Z is CH_2OH; and according to Claim 2 wherein said nonlinear primary aliphatic Oxo alcohols are substantially the only lubricity-improving component.

56. A composition wherein C_bH_{2b-2} is a linear saturated hydrocarbyl and K,L, Q and R are substituents; K and L are independently selected from:



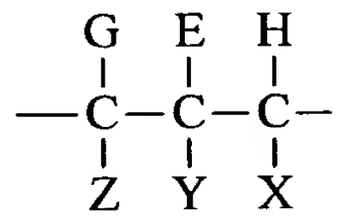
wherein one of X and Y and Z is CH_2OH; and according to Claim 3 wherein said nonlinear primary aliphatic Oxo alcohols are substantially the only lubricity-improving component.

57. A composition wherein C_bH_{2b-2} is a linear saturated hydrocarbyl and K,L, Q and R are substituents; K and L are independently selected from:



wherein one of X and Y and Z is CH_2OH; and according to Claim 18 wherein said nonlinear primary aliphatic Oxo alcohols are substantially the only lubricity-improving component.

58. A composition wherein C_bH_{2b-2} is a linear saturated hydrocarbyl and K,L, Q and R are substituents; K and L are independently selected from:



wherein one of X and Y and Z is CH_2OH; and according to Claim 19 wherein said nonlinear primary aliphatic Oxo alcohols are substantially the only lubricity-improving component.

59. A composition according to Claim 1 wherein said nonlinear primary aliphatic alcohols are monohydric.

60. A composition according to Claim 1 that is substantially free from diols.

61. A composition according to Claim 1 wherein said composition further comprises:
(c) from 0.001 ppm to 30% of linear C_{11} to C_{21} alcohols.

62. A composition according to Claim 1 further comprising:
(d) from 0.001 ppm to 30% of C_{12} to C_{22} nonlinear primary aliphatic diols.

63. A composition according to Claim 1 further comprising
(e) from 0.0001 ppm to 3% of C_{12} to C_{22} linear primary aliphatic diols.

64. A composition according to Claim 1 further comprising
(f) from 0.001 ppm to 30% of a mixture of members selected from:

linear C_{11} to C_{21} alcohols; C_{12} to C_{22} nonlinear primary aliphatic diols; and C_{12} to C_{22} linear primary aliphatic diols.

65. A composition according to Claim 1 further comprising:

(g) from 0.001 ppm to % of a fuel adjunct selected from

(I) diesel adjuncts comprising diesel ignition improvers, diesel stability improvers, diesel corrosion inhibitors, diesel detergent additives, diesel cold flow improvers, diesel combustion improvers, other conventional diesel adjuncts, and mixtures thereof; and

(II) aviation fuel adjuncts comprising jet fuel ignition improvers, jet fuel stability improvers, jet fuel corrosion inhibitors, jet fuel detergent additives, jet fuel cold flow improvers, jet fuel combustion improvers, jet fuel luminosity reducers/radiation quenchers, jet fuel antimicrobial/antifungal adjuncts, jet fuel antistats, other conventional jet fuel adjuncts and mixtures thereof.

66. A method of transporting a composition according Claim 1 comprising pumping said composition in a pipeline under low ambient temperature conditions.

67. A method of transporting a composition according Claim 18 comprising pumping said composition in a pipeline under low ambient temperature conditions.

68. A method of transporting a composition according Claim 19 comprising pumping said composition in a pipeline under low ambient temperature conditions.

69. A method according to Claim 66 wherein said pumping is carried out batchwise and alternating with pumping of batches of conventional fuels in said pipeline.

70. A method according to Claim 67 wherein said pumping is carried out batchwise and alternating with pumping of batches of conventional fuels in said pipeline.

71. A method according to Claim 68 wherein said pumping is carried out batchwise and alternating with pumping of batches of conventional fuels in said pipeline.

72. A process for making a fuel composition, said process comprising a step of blending:

(a) from 90% to 99.9% of fuel hydrocarbons having from 9 to 20 carbon atoms; and

(b) from 100 ppm to 10% of nonlinear primary aliphatic Oxo alcohols, wherein said alcohols are produced by the following stages:

(I) a first stage comprising: providing a member selected from

(A) F.T. wax;

(B) conventional petroleum wax;

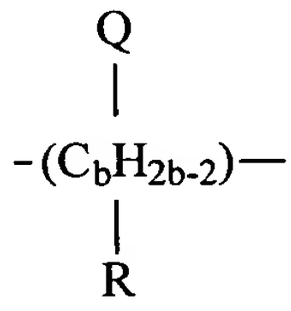
(C) a fuel hydrocarbon distillation cut in the Jet / diesel range, said distillation cut comprising at least 0.8 weight fraction of linear paraffins, mono-, di- or tri- C_1-C_3 branched acyclic paraffins, or mixtures thereof;

(D) mixtures thereof;

(II) a pre-Oxo stage comprising sequentially or concurrently delinearizing and preparing the product of the first stage for Oxo reaction, said stage comprising two or more steps in any order selected from steps capable of effecting (i) chain-breaking, (ii) branch-forming and (iii) olefin-forming; and

(III) an Oxo/post-Oxo stage comprising converting the product of the pre-Oxo stage to said alcohol, said stage comprising at least one Oxo step and further optionally comprising an Oxo aldehyde to alcohol conversion step and / or a step of hydrogenation of residual olefins to paraffins.

73. A composition comprising nonlinear diols having the formula:



any of X and Y and Z which is not CH_2OH is H;

b is an integer selected such that the total carbon content of said nonlinear diol is from 12 to 22;

E, G and Q are selected from H, methyl, ethyl, propyl and butyl provided that at least one of E, G and Q is not H;

and R is selected from H and methyl, preferably said nonlinear diols are nonlinear Oxo diols, and wherein when Q and R are both different from H, Q and R are attached to different carbon atoms of said linear saturated hydrocarbyl, more preferably said nonlinear primary aliphatic Oxo alcohols, (b), and said nonlinear diols, (d), are present at a ratio (b) : (d), of from 1000:1 to 2:1 by weight, preferably said nonlinear diols are present at a level of from 0.001 ppm to 30 % by weight.